

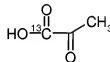
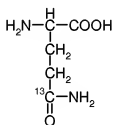
Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) A method of magnetic resonance imaging of a sample, said method comprising:
 - i) administering a hyperpolarised MR imaging agent in liquid phase comprising non-zero nuclear spin nuclei into the sample;
 - ii) exposing the sample to a radiation at a frequency selected to excite nuclear spin transitions in said non-zero nuclear spin nuclei;
 - iii) detecting MR signals from the sample and utilising spectral-spatial excitation, in combination with a FISP or PSIF pulse sequence with a flip angle of 45 to 90 degrees~~line scanning, point scanning and/or steady state imaging techniques~~; and
 - iv) optionally generating an image, physiological data or metabolic data from said detected signals.
2. Canceled.
3. Canceled.
4. Canceled.
5. (Previously presented) The method as claimed in claim 1 wherein said non-zero nuclear spin nuclei are selected from the group consisting of ^1H , ^3He , ^3Li , ^{13}C , ^{15}N , ^{19}F , ^{29}Si , ^{31}P and ^{129}Xe .
6. (Currently amended) The method as claimed in claim 1 wherein said non-zero nuclear spin nuclei are selected from the group consisting of ^{13}C and ^{15}N , ~~especially ^{13}C nuclei.~~

7. (Currently amended) The method as claimed in claim 1 wherein said MR imaging agent is artificially enriched above natural abundance in the MR imaging nucleus~~with nuclei having a T₁-relaxation time of more than 5s.~~
8. (Original) The method as claimed in claim 6 wherein the MR imaging agent has an effective nuclei ¹³C polarisation of more than 1%.
9. (Original) The method as claimed in claim 6 wherein the MR imaging agent is ¹³C enriched at carbonyl or quaternary carbon positions.
10. (Original) The method as claimed in claim 9 wherein said ¹³C enriched compound is deuterium labelled adjacent said ¹³C nucleus.
11. (Currently amended) The method as claimed in claim 6 wherein said ¹³C nuclei are surrounded by one or more non-MR active nuclei or entities selected from the group consisting of O, S, C₂~~or a double bond, and a~~ or triple bond.
12. Canceled.
13. (Currently amended) The method as claimed in claim 1 wherein said imaging agent comprises a compound selected from ~~the following: pyruvate,~~



, and

14. (Currently amended) The method as claimed in claim 13 wherein said non-zero nuclear spin nuclei are ¹³C nuclei.
15. (Previously presented) The method as claimed in claim 1 wherein the sample is a human or non-human animal body.

16. (New) The method of claim 15 wherein step iii) is carried out after the agent has left the vascular bed and wherein step iv) metabolic data are generated from said detected signals.